

IBM Software

Agile Entwicklung auf System z mit IBM Rational „Vom Wasserfallmodell zu Scrum“ !?!

19.03.2013

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Technical Sales and Solutions zRational

Agenda

Collaborative Lifecycle Management

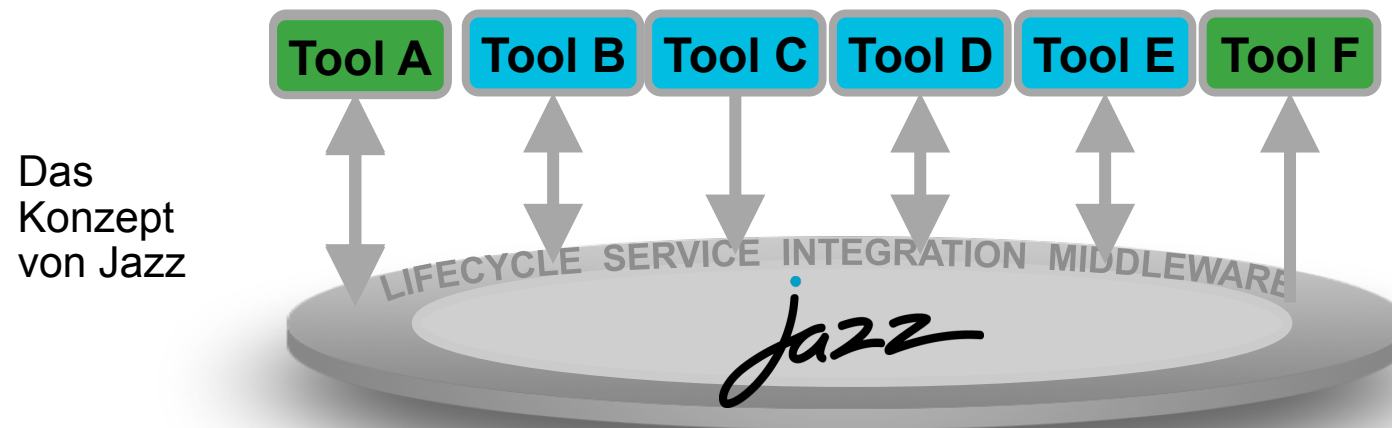
Continuous Integration

Continuous Delivery



Ihre Ausgangssituation?! – Unsere Lösung

- In einem Softwareentwicklungsprojekt bestehen Silos zwischen den einzelnen Disziplinen
- Der Entwicklungsprozess wird gelebt und ist weit weg von dem einst dokumentierten Verfahren
- Das Entwicklungsteam ist eingespielt und konstant



Jazz Foundation Services

Was bedeutet „Jazz“? Was ist Eclipse? – Die Bausteine der Lösung

Die **Jazz** Initiative besteht aus:

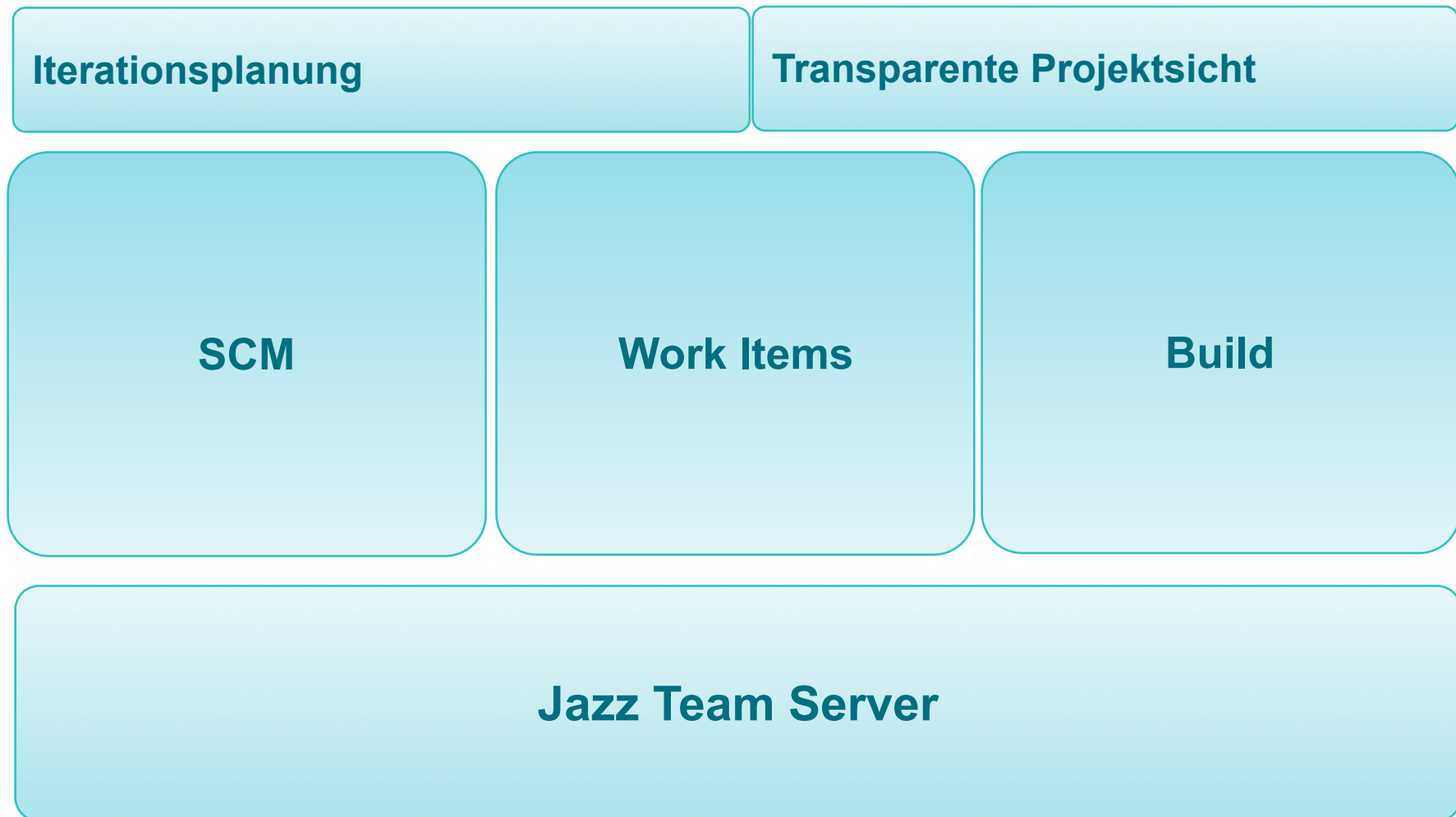
- der Architektur für die Verlinkung zwischen den Disziplinen in der Anwendungsentwicklung
 - Jazz Integration Architecture (JIA)
 - OSLC
 - API
- einem Produktportfolio
- der Community der Stakeholder
 - Jazz.net

Eclipse als Basis-Infrastruktur für die IDE

- Erweiterbar und anpassbar
- Offen für 3rd-Party und eigene Erweiterungen



Rational Team Concert



Release-Planung

Iterationsplanung

Transparenzte Projektsicht

SCM

Work Items

Build

Jazz Team Server

JKE Banking (Change Management)

Project Area

JKE Banking (Change Management)

Show in Team Organization

Open Web Client for Project

Details

Summary

JKE Banking (Change Management)

Description

The purpose of this project is to coordinate the development and delivery of JKE Banking applications.

Members

Roles determine member permissions as well as any preconditions and follow-up actions that are completed for each project or team operation. Role assignments are valid in all team areas of this project area. All members have the default role.

Name	Process Roles
<input type="checkbox"/> Al	Team Member
<input type="checkbox"/> Bob	Product Owner
<input type="checkbox"/> Build	Team Member
<input type="checkbox"/> Dave	Team Member
<input type="checkbox"/> Deb	Team Member
<input checked="" type="checkbox"/> Dennis Behm	Product Owner, Stakeholder, Scrum Master, Tea.
<input type="checkbox"/> Flemming Petersen	
<input type="checkbox"/> Keith Allen	

Add...

Create...

Remove

Process Roles...

Process Description

A Process Description allows you to author a human-readable description of your team's practices. To manage the process description, open the [web client](#).

[Money that Matters Sample Process](#) : This process is only used for the Money that Matters sample and should not be used for normal projects. It is derived from the Scrum process.

Timelines

The project timeline defines a start and end date along with an iteration breakdown. Additional timelines can be defined to track secondary activities.

Main Development [Project Timeline]

Release 1.0 [11/5/12 - 12/16/12]

Sprint 1 [11/5/12 - 11/18/12]

Sprint 2 [11/19/12 - 3/30/13]

development

stabilization

Sprint 3 [12/3/12 - 12/16/12]

Product Backlog

Maintenance

Edit Properties...

Duplicate...

Create Timeline...

Create Iteration...

Delete...

Overview

Links

Process Configuration

Process Configuration Source

Access Control

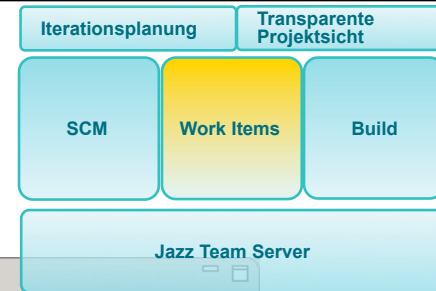
Work Item Categories

Releases

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6

Das WorkItem als zentrales Element von Rational Team Concert



92: Demo RTC und SCM Build

Task 92

Summary: * Demo RTC und SCM Build Done

Details

Type: Task

Filed Against: JKE/BRM

Team Area: Business Recovery Matters /

Creation Date: Dec 18, 2012 12:21 PM

Created By: Dennis Behm

Tags:

Owned By: Dennis Behm

Priority: High

Planned For: -> Sprint 2

Estimate: Correction:

Time l

Due Date: None

Resolution Date: Dec 18, 2012 12:32 PM

Resolved By: Dennis Behm

Quick Information

- Subscribers (1): DB
- Change Sets (1): #1
- Included in Builds (2)

Description

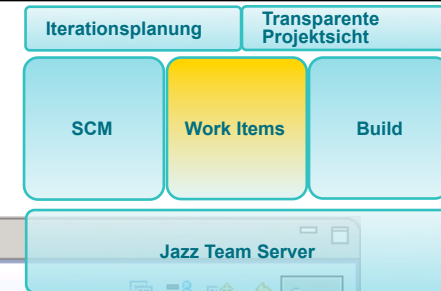
Beschreibung des Arbeitsauftrags:

- Erstellung eines WorkItems
- Erzeugen eines Changeset
- Bereitstellung im Stream
- Umwandlung der Änderung

Discussion (2 comments) [Add Comment](#)

Overview Links Approvals History

Verknüpfungen zu Sourcecodeänderungen, Builds, Tests und zu weiteren WorkItems



92: Demo RTC und SCM Build

Task 92

Summary: Demo RTC und SCM Build

Done

Attachments

Id	Name	Created	Created by	Size	Type
----	------	---------	------------	------	------

Add File...
Add Screenshot...
Remove
Rename
Save As...

Subscribers

Dennis Behm

Add...
Remove

Links

Change Sets

- Mortgage - Dennis Behm Feb 4, 2013 2:15 PM

Included in Builds

- mortgage.dev 20130204-1316050327
- mortgage.test 20130204-1743060232

Add
Open
Remove

Overview Links Approvals History

Build Ergebnisse

Iterationsplanung

Transparente Projektsicht

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Work Items

Build

Jazz Team Server

Save

20130313-1748410694

Build mortgage.dev 20130313-1748410694

✓ **Completed**

Duration: 33 seconds
Start Time: March 13, 2013 6:48:41 PM
Completed: March 13, 2013 6:49:15 PM

Status Trend:

Contribution Summary

Build report: [1 file processed](#)
Changes: [Show changes](#)
Compile: [0 errors, 5 warnings](#)
Downloads: [8 downloads](#)
External Links: [1 link](#)
Logs: [1 log](#)
Snapshot: [mortgage.dev_20130313-1748410694](#)
Work items: 1 included in build

Associated Release

Released builds are available as choices in the work item "Found In" field.
 [Create a release to associate with this build](#)

Reported Work Items

Work items reported against this build to help stabilize it.
 None reported against this build
 [Create a new work item](#)
 [Associate an existing work item](#)

General Information

Requested by: Dennis Behm
Build Definition: [mortgage.dev](#)
Build Engine: [ike.rba.engine.dev](#)
Build History: [30 builds](#)
Tags:
☒ Deletion allowed

Overview | Activities | Compilation | Downloads | Logs | External Links

Sprint Plan – Work Breakdown

Iterationsplanung

Transparente Projektsicht

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Jazz Team Server

92: Demo RTC und SCM Build | BRM Sprint 2 (1.0) Plan [Sprint 2] | JKE Banking (Change Management)

BRM Sprint 2 (1.0) Plan Problems detected

Owner: Business Recovery Matters | Iteration: Sprint 2 (11/19/12 - 3/30/13) | 6 Closed | 33 Open | 24/289hrs | 77%

Person	Closed items	Open items	Progress	Estimated
AI	0	2	0/64hrs	100%
Allocate Dividends with Web Service -- 0/96 h New Medium 82				
Bob	0	1	0/2hrs	100%
Performance on first startup is bad 2 hours -- New High 24				
Dave	0	2	0/5pts 0/16hrs	100%
Validate Loan Term and Amount -- 0/16 h New High 77				
Deb	1	6	8/125hrs	100%
Calculation error 1 day -- Done High 22				
Allocate Dividends with Web Service -- 0/96 h New Medium 82				
Requests sent in form of email -- 0/32 h New Medium 59				
Frequency of dividend transfer -- 0/40 h New Medium 55				
Improve link colors 4 hours -- New Medium 27				
Search is not finding this term 6 hours -- New Medium 23				
Widget Disposed Exception 3 hours -- New Low 19				
Dennis Behm	5	1	16/16hrs	100%
Weihnachtsgeschenke besorgen - -- Done High 93				

Notes | Planned Items | Charts | Links

View As

- Planned Time
- Ranked List
- Taskboard
- Traceability
- Work Breakdown**

Edit | Copy

Actions

Re-sort

Exclude

- ☐ Assigned Items
- ☐ Empty Groups
- ☐ Estimated Items
- ☐ Execution Items
- ☐ Expression
- ☐ Items from Sub-Iter...
- ☐ Items from Sub-Teams
- ☐ Planned Items (Dep...
- ☐ Resolved Items
- ☐ Unchanged Items

Sprint Plan – Planned Time Ist mein Projekt „in-time“

Iterationsplanung

Transparente Projektsicht

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92: Demo RTC und SCM Build

BRM Sprint 2 (1.0) Plan [Sprint 2]

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24/289hrs 77%

Bob
Closed items: 0 | Open items: 1
Today
Inbox (1 open)
Load: 2 / 96 | +94 h Estimated: 100%

Dave
Closed items: 0 | Open items: 2
Today
Inbox (2 open)
Load: 16 / 32 | +16 h Estimated: 100%

Deb
Closed items: 1 | Open items: 6
Past (1 closed)
Today
Inbox (6 open)
Load: 117 / 96 | -21 h Estimated: 100%

Dennis Behm
Closed items: 5 | Open items: 1
Past (5 closed)
Today (1 open)
BMS Map
No Work Estimated
Load: 0 / 32 | +32 h Estimated: 0%

Marco
Closed items: 0 | Open items: 16
Today
Inbox (16 open)
Load: 66 / 96 | +30 h Estimated: 88%

Scott Davis
Closed items: 0 | Open items: 1
Today (1 open)
Load: 0 / 32 | +32 h Estimated: 100%

View As

☒ Planned Time

☐ Ranked List

☐ Taskboard

☐ Traceability

☐ Work Breakdown

Edit | Copy

Actions

Re-sort

Exclude

☐ Assigned Items

☐ Empty Groups

☐ Estimated Items

☐ Execution Items

☐ Expression

☐ Items from Sub-Iter...

☐ Items from Sub-Teams

☐ Planned Items (Dep...

☐ Resolved Items

☐ Unchanged Items

Notes | Planned Items | Charts | Links

Was bietet Rational Team Concert?

Rational Team Concert integriert in dem kundenspezifischen Entwicklungsprozess

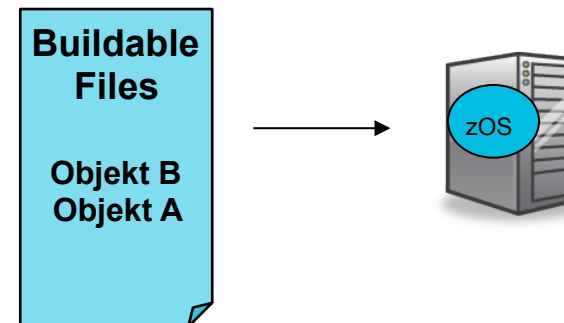
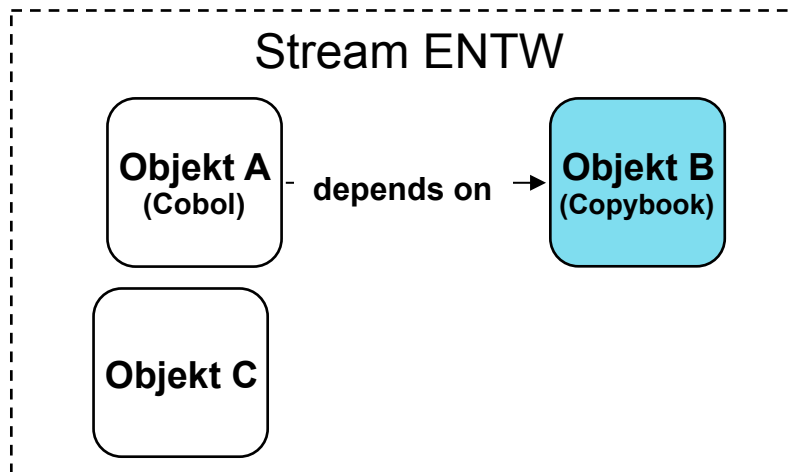
- Projektplanung und –steuerung,
- die Erfassung und Bearbeitung von WorkItems,
- Sourcecode Management,
- Build, Promotion, Packaging, Deployment

für alle beteiligten Rollen

- Entwickler, Architekten, Operator, Projektleiter, Teilprojektleiter, Stakeholder

Was bietet RTC auf dem Mainframe? Rational Team Concert Enterprise Extensions

- RTC Enterprise Extensions
 - Dependency based Builds (z/OS & IBM i) für Cobol und PLI
 - Promotion of builds (z/OS)
 - Deployment of Applications



Was bietet RTC auf dem Mainframe?

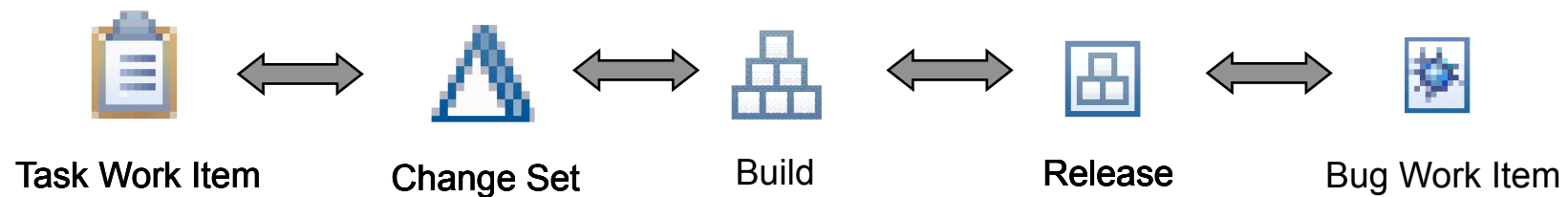
Rational Team Concert Enterprise Extensions

- Zugriff auf die RTC SCM Komponente über ISPF
 - ISPF 'Green Screen' SCM Client

```
Menu Help
RTC/z Primary Option Menu
Option ==> 2
0 Settings      Terminal & user parameters      ***** Logged in *****
1 Connection    Work with Connection to source   Userid . . : robin
2 Workspaces    Work with repository Workspace  Language. : ENGLISH
3 Edit          Work with source data            Server. . . :
4 Build         Work with Build options          Project . . :
X Exit          Terminate RTCz                   Workspace :
                                           Release . . :
```

Zusammenhang Arbeitselement – Source – Planung

- Screenshot Arbeitselement
- Screenshot Planungsübersicht + Sprintplan



Es geht um Transparenz

- Das Team und der Entwicklungsprozess stehen im Mittelpunkt
 - Parallele Entwicklung an einem Modul möglich
 - Automatisierter Build
 - Änderungen am Entwicklungsprozess wird von den Werkzeugen sofort berücksichtigt
 - Onboarding eines Mitarbeiters erfolgt durch Zuteilung einer Rolle und eines Teams
- Nachvollziehbarkeit von Änderungen
 - Ist der Fix in Produktion?
 - Welche Aufträge sind in diesem Build enthalten?
 - Welche Anforderungen sind von diesem Defect betroffen?

Agenda

Collaborative Lifecycle Management

Continuous Integration

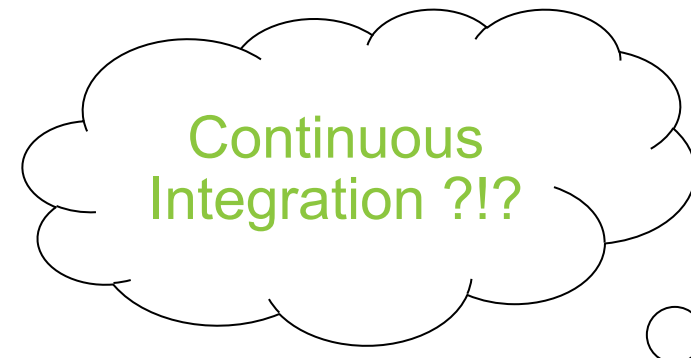
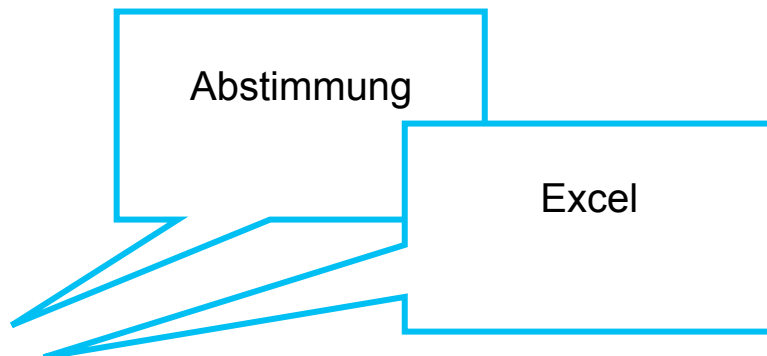
Continuous Delivery



Continuous Integration – Ausgangssituation

- Anwendungen werden in Multi-Tier Architekturen implementiert
 - Präsentationsschicht
 - Anwendungslogik
 - Persistenzschicht

➔ Wie werden alle Anwendungskomponenten zueinander stimmig gehalten?



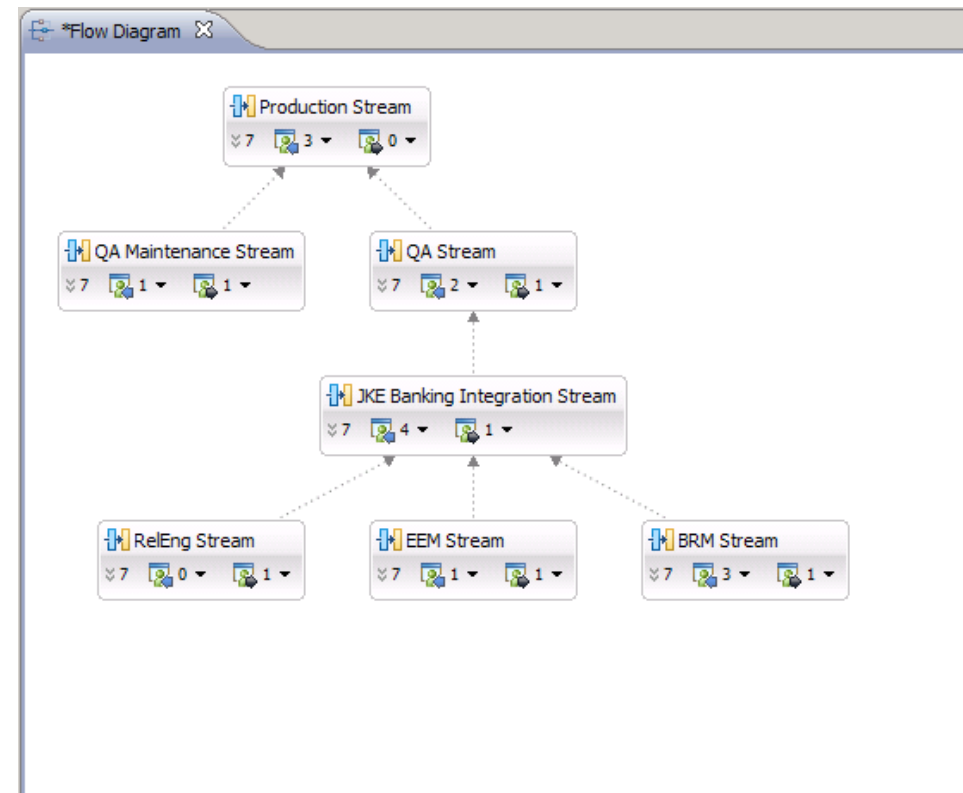
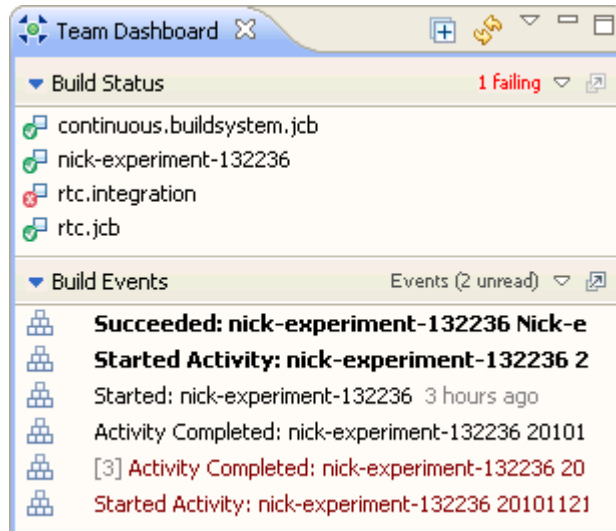
Continuous Integration – konzeptionell

1. Jeder Entwickler soll frühzeitig und in hoher Regelmäßigkeit Änderungen in die Versionsverwaltung einchecken. Normalerweise sollte jeder Entwickler mindestens täglich seine Änderungen einchecken.
2. Sobald ein Entwickler Änderungen in die Versionsverwaltung eincheckt, wird das Gesamtsystem neu gebaut. Der Entwickler soll so schnell wie möglich auf Integrationsprobleme seiner Änderung hinzuweisen werden.

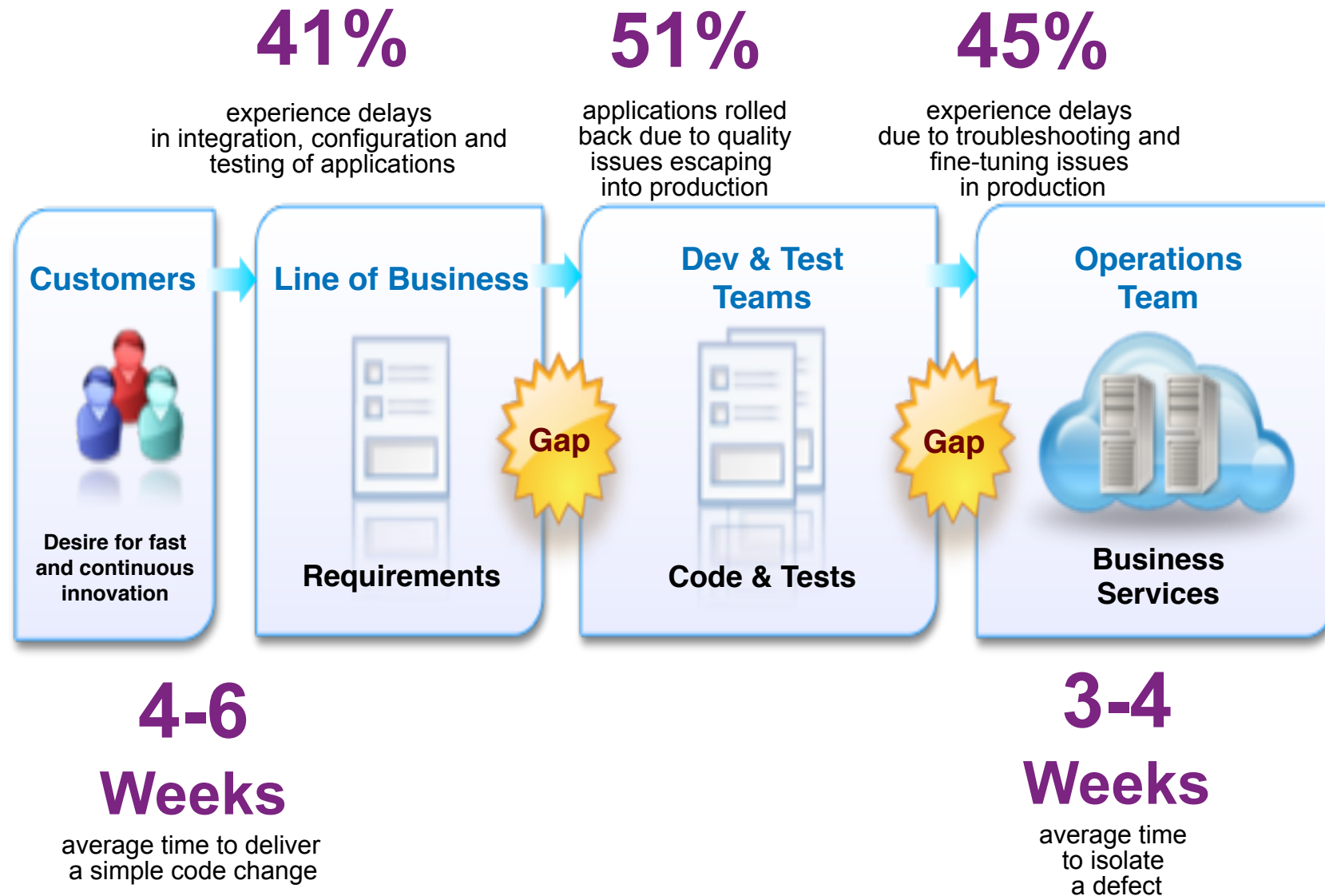


Rational Team Concert bringt die Anwendungsentwicklung von dezentraler und zentralen Komponenten zusammen

- Erstellung einer Integrationsstufe der unterschiedlichen Anwendungskomponenten
- Gemeinsame Umwandlung der Anwendungskomponenten



Software Delivery Challenges



Agenda

Collaborative Lifecycle Management

Continuous Integration

Continuous Delivery



Continuous Delivery – Was ist das?

- Continuous Delivery ist die Nutzung von Techniken, Prozessen und Werkzeugen aus der *Agilen Softwareentwicklung* zur Verbesserung des Softwarelieferungsprozesses.
- Elemente sind
 - Continuous Integration
 - DevOps
 - Infrastrukturprovisionierung
 - Infrastrukturautomatisierung
 - Testautomatisierung

Viele Check-ins und regelmäßige Builds ... Was jetzt?



I need to deliver changes faster!!



- *Agile Development*
- **Continuous Integration**
- *Build Automation*
- *Scripting*



I need to test but don't have any environments for it!!



- **Test Infrastructure Automation**
- *Test Management*
- *Test Automation*



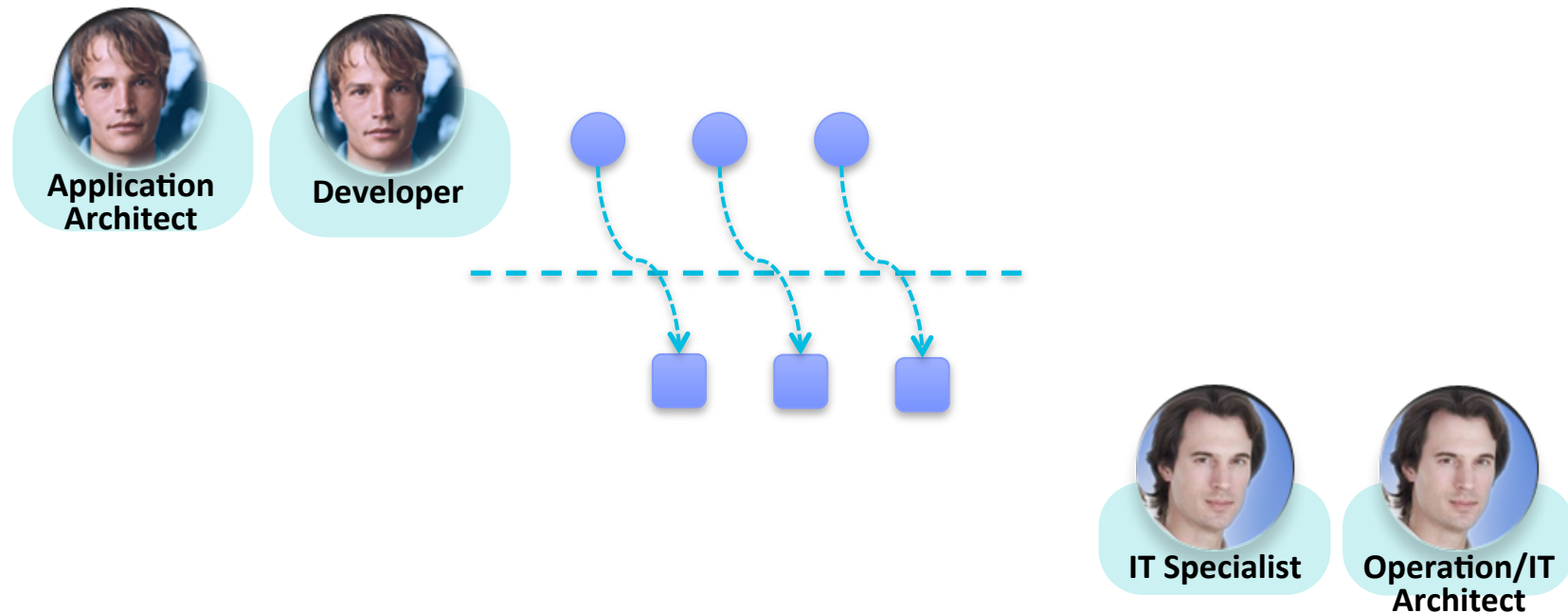
I have too many environments to manage!!



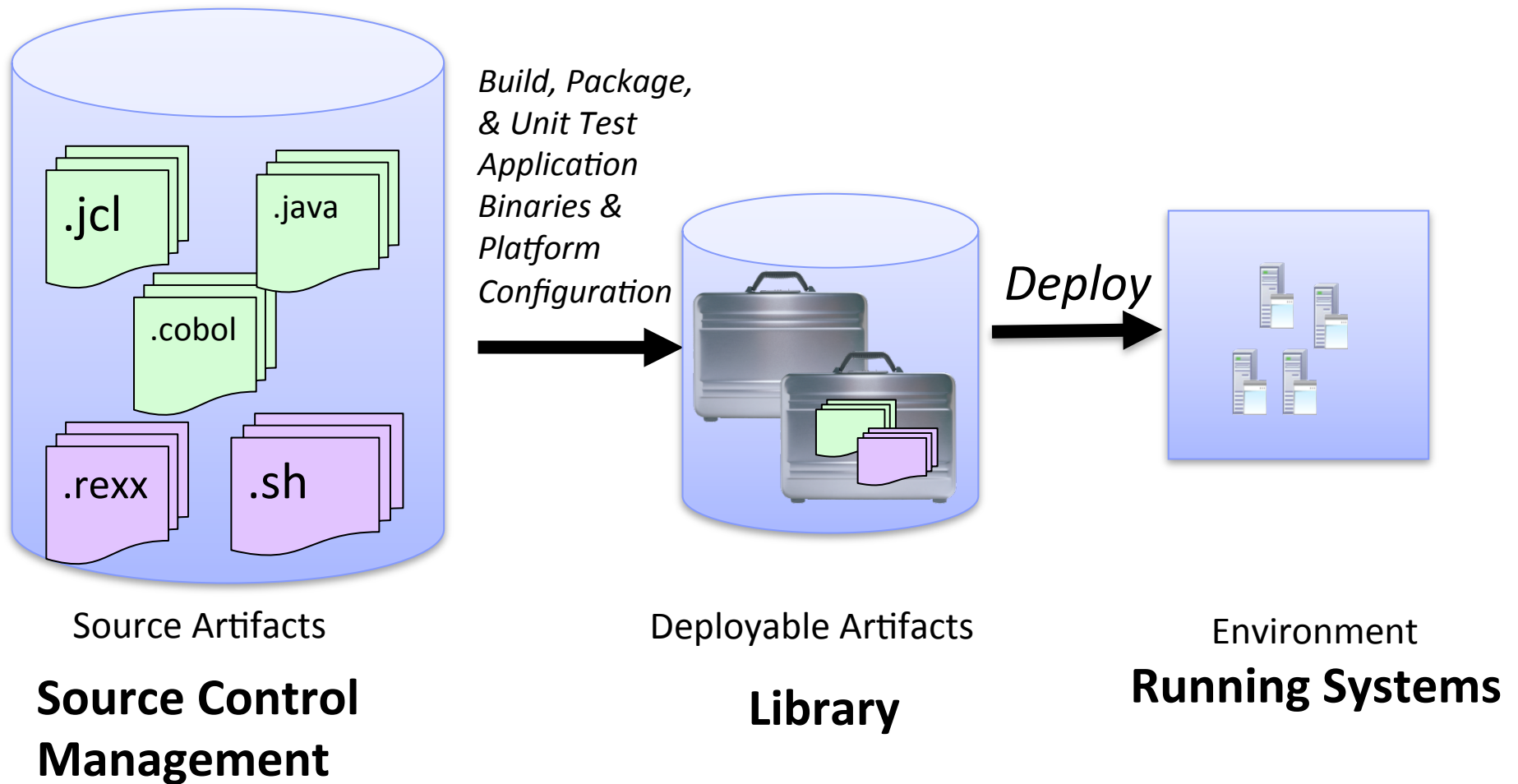
- *Cloud & Virtualization*
- **Infrastructure Provisioning Automation**
- *Application & Middleware Deployment Automation*

DevOps: Verstärkung der Zusammenarbeit von Development und Operations

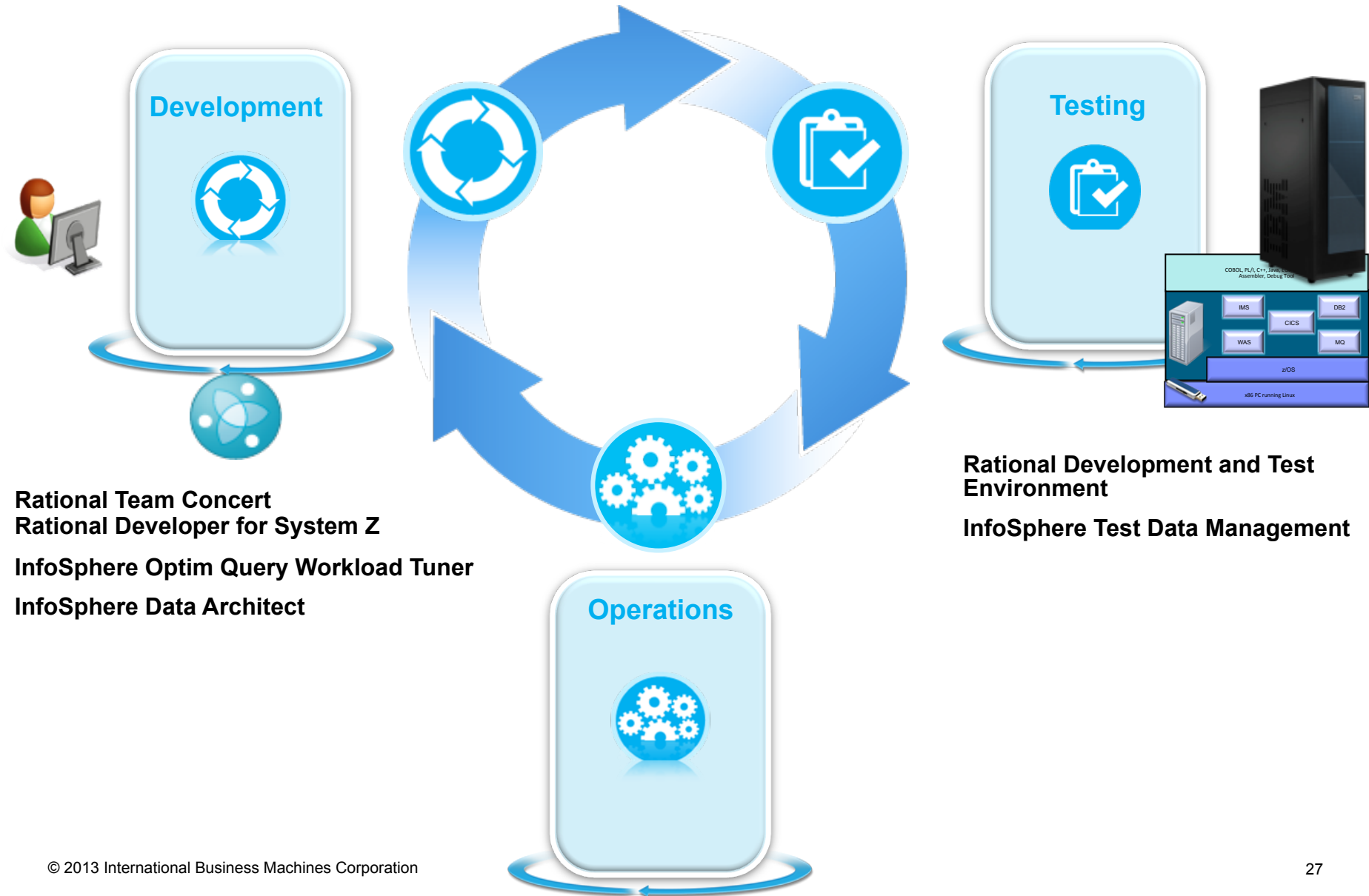
- Die organisatorische Trennung zwischen Anwendungsentwicklung und Betrieb teilt Software und Infrastruktur
- Welche Artefakte erstellt ein Entwickler oder der IT Spezialist?



Software Defined Environments



Continuous Delivery



Smart Cloud Continuous Delivery

Products Downloads Community Our Story MY STUFF GET HELP EXTEND LIBRARY FORUM BLOGS JAZZHUB

Change and Configuration Management (Jazz)

SmartCloud Continuous Delivery Dennis Behm

Project Dashboards Work Items Plans Builds Reports Search Work Items

Plans >

SCD 2.5 Development Plan

309 Items: 209 open, 100 closed | Ends in: 72 days

Plan Details [Edit](#)

Planned Items Links Snapshots Dashboard Notes

View As: Iterations Type to Filter (185 items filtered) Add Work Item

SmartCloud Continuous Delivery 2.5 [11/5/12 - 5/28/13]		Complexity Attribute Not Defined		
Closed Items: 100 Open Items: 209		Progress: 0/0	Estimated: 73%	
Summary		Effective	Progress	Rank
[Epic] As a developer, publish build output to artifact library using natural and simple gestures such as place build ou...	n/a	--	--	2
[Epic] As a release engineer, onboard new applications more quickly with fewer touchpoints	n/a	--	-- 0	24
[Epic] Improve setup and installation for SmartCloud Continuous Delivery	n/a	--	--	22
[Epic] As a tester, use Green Hat to virtualize a service as part of a delivery pipeline	n/a	--	--	39
[Epic] As a user of SmartCloud Continuous Delivery, perform basic flows with no errors (automated test parent story)	n/a	--	--	51
[Epic] As a developer, deploy and test applications using RD&T (initial solution for DevOps for Systemz)	n/a	--	--	53
Opened Defects	n/a	--	0/8hrs	51
Open Dependencies	n/a	--	--	Not Ran...
As a project lead, view operational quality and efficiency metrics via dashboards	n/a	--	--	Not Ran...
2.5 M2 [1/2/13 - 2/15/13]		Complexity Attribute Not Defined		
Closed Items: 63 Open Items: 17		Progress: 0/0	Estimated: 94%	
Summary		Effective	Progress	Rank
As a Release Engineer, configure a continuous delivery process for the creation of virtual images	n/a	--	0/88hrs	17
[Epic] As a release engineer, onboard new applications more quickly with fewer touchpoints	n/a	--	--	24
DevOps Blog Ideas and Authoring Schedule	n/a	--	--	34
[Epic] As a tester, use Green Hat to virtualize a service as part of a delivery pipeline	n/a	--	--	39
Opened Defects	n/a	--	0/8hrs	59
As a Weaver user, I want have a OpenStack sample build that cleanups but keeps the logs.	n/a	--	--	67
Recreate the jazz.net topology in a virtual system pattern	n/a	--	--	72
2.5 M3 [2/18/13 - 3/29/13]		Complexity Attribute Not Defined		
Closed Items: 33 Open Items: 157		Progress: 0/0	Estimated: 82%	
Summary		Effective	Progress	Rank
[Epic] As a developer, publish build output to artifact library using natural and simple gestures such as place build ou...	n/a	--	--	2
As a developer, support non-IBM cloud targets (OpenStack, Amazon EC2)	n/a	--	--	16
[Epic] As a release engineer, onboard new applications more quickly with fewer touchpoints	n/a	--	--	24
[Epic] Improve setup and installation for SmartCloud Continuous Delivery	n/a	--	--	22
[Epic] As a tester, use Green Hat to virtualize a service as part of a delivery pipeline	n/a	--	--	39

IBM